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GR-303 Integrated Access Platforms

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- Client-Only Section

Become a Member of the Integrated Access System (GR-303) Interest Group and receive periodic announcements related to Telcordia Integrated Access System generic requirements activities.

What i4 GR-303?

Network providers are lwking to deploy Next Generation Integrated Diiiial Loop Carrier (NG-IDLC) *systems* that take advantage of leading edge technology. These systems can help reduce operating and capital equipment costs while delivering a full range of telemmmunications services. Telcordii GR-303 family of requirements specifies a set of NG-IDLC generic criteria that creates an Integrated Access System, supporting multiple distribution technologies and architectures (e.g., DSL, HFC. Fiber-to-the-Curb, etc.), and a wide range of services (narrowband and broadbend) on a single access piatform.

Telcordia GR-303, Integrated Digitd Loop Carrier System Generic Requirements, Objectives and Interlace. defines a set of requirements for Next Generation Integrated Oigiiai Loop Carrier (NG-IDLC) systems that includes open interlaces for mix-and-match of Local Digital Switches (LDS) with Remote Digital Terminals (RDT).

As LDS/RDT/EMS (Element Management System) implement GR-303 requirements, and as network providers plan for wider deployment of NG-IDLC systems, technical and business issues are being identified that must be addressed. As these issues are identified, Telcordia will maintain the GR-303 requirements by updating Ihem to reflect vendor design and network provider deployment experiences in a manner that continues to promote the mixad-match environment. This work will include generating proposed modifications or additions to the existing generic requirements in GR-303-CORE. In addition. Telcordia will organize. plan. and participate in uP to two GR-303 Industry FoNms. Telcordia will work with funders to address and resolve implementation issues related to GR-303 NG-IDLC systems.
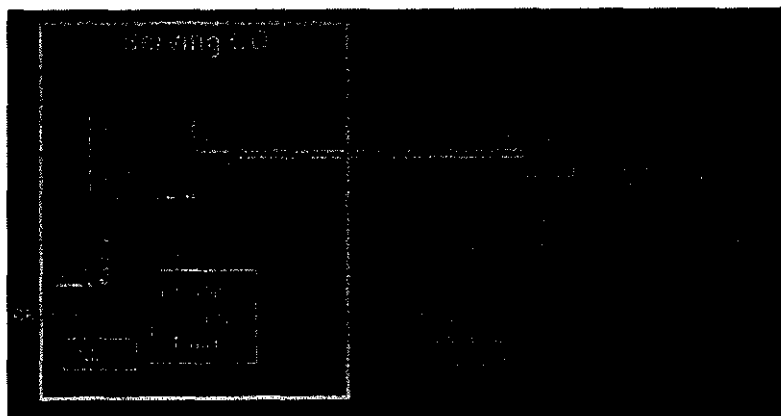
Integrated A c w u **System Architecture Diagram (SONET Example)**

GR-303-based Integrated Access Systems promote increased network architecture flexibility by providing a consistent approach to deploying a wide range of access system technologies in a consistent manner. Many vendors are developing NG-IDLC products that, although they use different distribution technologies and architectures (e.g., hybrid fiber coax and fiber in the loop). meet the open interlaces described in the GR-303 requirements. This allows network providers to tailor the access system technology deployed area-&-area while utilizing core network features such as the WS interface and Telecommunications Management Network (TMN) operations capabilities.

GR-303-based integrated Access Systems are intended lo reduce capital costs through supplier

competition. Integrated **Access** System products **enable** mix-and-match among LDS. RDT and EMS products from a wide variety of vendors. The open interfaces described in the GR-303 requirements will help **enable** the network providers to pursue competitive bids fmm multiple suppliers for IntegratedAccess Systems products, thereby potentially obtaining **better** prices. **Network** providers need **not** be dependent **on** a single vendor to provide a suboptimal total network solution and can select the product(s) to match their business and technical needs.

The **GR-303-based** IntegratedAccess Systems will also reduce operating costs through a standards-based. Telecommunications Management **Network (TMN)** compatible operations environment mat provides remote operations capabilities. Applying the layered approach to network management embodied in **TMN** to IntegratedAccess Systems provides remote operations capabilities. such as software downloading and configuration management. that will help to streamline the client's processes for operating and maintaining Integrated **Access** Systems. Further, by adopting a standards-based approach, vendors will potentially achieve lower costs for implementing operations capabilities sinca the same informalion models mav be used to support multiple products in the vendors' portfolios

Additionally, **GR-303-based** IntegratedAccess Systems will help increase revenues by providing an access platform for services such as Internet access.

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GR-303 and Packet Access

A large in-flux of new access systems entering the market are based **on** distributed RDT architectures ('distributed access systems'). While distributed access systems have **been on** the market for many years (e.g., in the form of fiber-to-thecurb systems), the recent market demands for the delivery of integrated voice and high-speed data access has changed the focus of the recent market entries. Many distributed access systems **now** require an 'edge' device on the customer premises that provides the voice-grade service interfaces (e.g., 'POTS' lines), in addition to a high-speed data interface. In addition, some distributed access systems utilize packetized-voice transport to increase the access **network** bandwidth efficiencies, and to lay the foundation for the deployment of new ('next generation') advance voice **services,** such as those promised in a soft-switch sewice environment.

The document bebw views voiceover-packel (VOP) access systems as distributed integrated digital loop carrier (IDLC) systems. and considers the application of a number of GR-303-CORE IDLC system requirements to VOP access. This document addresses the following:

VOP **Delay Analysis** - Considers IDLC bearer path **(VF** transmission) and signaling delay criteria in the **context of** VOP access. Some important IDLC originating call and terminating cell timings **are** reviewed and discussed. In addition, this document considers a number of class 5 switch-based **data** services and the corresponding constraints imposed upon the VOP access system in order to maintain sewice transparency.

VOP **Operational Impacts** - Considers several issues surrounding VOP access **system call** processing behavior, wilh an eye loward the goal of maintaining operational lranaparency to the serving local digital swilch (LDS).

- Call processing behaviors associated with VOP call failure events are discussed. Both originating and terminating call failure events are discussed, **along** with behaviors toward the network and toward the VOP end-user.
- Voice circuit testing in a VOP access environment is also considered. with specific focus on issues surrounding emulating IDLC circuit testing operation. Testing areas requiring further investigation ere identified.

Download A **GR-303 Analysis of Voice over Packet Access (888K** PDF)

Please direct comments to: Mike Botsakos or Rob Bond

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The GR-303 family of integrated Access System requirements consists of:

- **GR-303-CORE Issue 4,** 'IDLC Generic Requirements, **Objectives, and** Interface*, **December 2000 and the associated issues** List Report: GR-303-ILR Issue 4A, **December 2000**
  Defines end-toad functional requirements **for** Integraled Access system. and defines a generic **(open)** narrowband interface to a local digital switch in support of telephony services.

- **GR-303-IMD,** IDLC System Generic **Operations interface (formerly TR-TSY-000303** Supplement 3), Issue 1, **December 1998**
  This document replaces TR-TSY-000303, Supplement 3, and ail its Revisions. and **SR-NWT-002966** 'Implementmion Aid on Translation of IDLC TR303 Sup3 Macros to GDMO*. Defines the requirements for operations communication using CMIS and ASN.I over the EOC of GR-303-based access systems. These requirements include the management **services,** the managed objects of an informalion model that the **services** reference, and the ASN.I descriptions of the information associated with the services and managed objects. These requirements are the basis **of** the **EOC** communications used by today's embedded GR-303-based switches

- **GR-2833-CORE Issue 3.** Revision **2,** 'Generic Operations Interfaces Using **OSI** Tools: Information **Model lor IDLC** and **FITL Systems",** and **the associated issues** List **Report: GR-2833-ILR Issue 3C. December 1998**
  Defines a set of managed objects for Integrated **Accass** System Remote Digital Terminals (RDTs). These requirements are the basis for RDT<=>Element Management **System** (EMS) communications

- **GR-2905-CORE, Issue** 2, October **1997.** Revision 1, "Generic Requirements **lor** EML Applications **for** Management **of IDLC Systems',** and **the associated issues** List **Report: GR-2905-ILR Issue 28, December 1998**
  Defines the interface between an Element Management System (EMS) and an RDT, **as wdl as** the interlace between and EMS and a **Network** Management System **(NMS).**

To subscribe to these G R documents, read our document ordering information.

Upcoming Events

me next GR-303 Integrated Access Tutorial will take place May **7-8, 2002** at the Teicordia Learning and Conference Center in Lisle, IL. Click here for more information.

For More Inlormation

Teicordia offers customized GR-303 training seminars. requirements/implementation consulting, deployment support. unit conformance and interoperability testing, as well as business consulting services. Please contact Scott Yeomans (9734294139) lor general information on GR-303 access systems and related Telwrdia services.

A OR-303 multimedia tutorial CD-ROM is **now** available (LP-456-ET). To get more information or to order this multimedia tutorial go to the Telcordia Information SuperStore, select the 'Search our Catalog" option, and **then** search on 'LP-456-BT".

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VERIZON VIRGINIA INC.

SUPPLEMENTAL TESTIMONY OF PAT GARZILLO

DOCKET NOS. 00-218, 00-249, 00-251

APRIL 15,2003

SUPPLEMENTAL TESTIMONY OF PAT GARZILLO

3 **Q. Please state your name and occupation.**

4 A. My name is Pat Garzillo. I am employed by Verizon Services Group as the Vice

5 President of Service Costs in the Finance Department. The Service Costs organization is

6 responsible for developing costs for services provided by Verizon. As Vice President, I

7 am responsible for managing and supervising the development, preparation, and analysis

8 of service cost studies for retail and wholesale products and services in all of Verizon's

9 serving areas, including Virginia. I have not previously testified in this proceeding.

10 **Q. What is the purpose of your declaration?**

11 **A.** The purpose of my declaration is to document and explain our study that shows that the

12 TELRIC rates proposed in this proceeding (by both AT&T/WorldCom and Verizon VA)

13 would not provide sufficient compensation to permit Verizon VA to recoup its costs in

14 connection with Verizon VA's unrecovered historical investment in, and the associated

15 operating expenses for, the facilities Verizon VA uses to provide UNEs to CLECs. **Our**

16 study focused on the most widely used elements – the loop, switching, and shared

17 transport, which together comprise the UNE platform. This study relies on the

18 investment and operating expense data recorded in Verizon VA's financial records to

19 determine Verizon VA's costs."

20 **Q. Please summarize the results of your study.**

21 A. The results show that Verizon VA's monthly recurring cost in 2002 to provide CLECs

22 with the facilities used to provide UNE-P was $42.26, and its recurring cost to provide a

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1/ We are providing with this study non-proprietary backup information and data at a summary level. If the Bureau grants Verizon VA's motion to supplement the record, Verizon VA can provide more detailed backup information.

1	stand-alone loop was $29.14. These costs are higher than Verizon VA's proposed
2	TELRIC recurring rates in this proceeding and *substantially* above the $9.97 UNE-P and
3	$6.48 loop recurring rates proposed by AT&T/WorldCom. Thus, adopting the rates
4	AT&T/WorldCom have proposed in this case would result in a shortfall of $22.66 per
5	loop and $32.29 per UNE-P per month. Had Verizon VA been forced to provide UNEs
6	at the rates proposed by AT&T/WorldCom for the actual volume of loops and UNE-Ps it
7	provided in Virginia in 2002, it would have had a shortfall between its costs and revenue
8	of more than $59 million. If the historic growth trends in the volume of loop and UNE-P
9	orders in Virginia are projected forward, by 2005 the shortfall based on
10	AT&T/WorldCom rates would be more than $158 million. This may be a conservative
11	estimate. If the number of loops and UNE-Ps Verizon provided in Virginia were to grow
12	at rates similar to those that occurred in New Jersey or New York following the grant of
13	section 271 relief in those states, by 2005 the annual shortfall in Virginia would be $222
14	million or $317 million, respectively. The shortfall produced by the rates proposed by
15	AT&T/WorldCom is so great that, if Verizon VA had provided just 22% **of** its lines as
16	UNE-Ps in Virginia (less than it has provided in New York) at the rates proposed by
17	AT&T/WorldCom, Verizon VA's net income in 2002 would have dropped to zero.
18	Moreover, because the rates proposed by Verizon VA in this proceeding were
19	calculated in conformance with the Commission's TELRIC rules, those rates also would
20	produce a significant (though somewhat smaller) shortfall, as explained below.

21 **I.   HISTORICAL COST STUDY**

22 **A.   Overview**

23 **Q.   Describe at a general level how you calculated Verizon VA's costs of providing UNE**

24 **facilities.**

1   A.   Verizon VA's study identifies the UNE loop and UNE-P rates that would allow Verizon

2   VA to recoup its historical investment and the associated operating costs it incurs in

3   providing UNEs to CLECs. The study is based on our analysis of the investment and

4   expenses reflected in Verizon VA's 2002 accounting records through the first nine

5   months of 2002. This data was used because it was the most recent accurate data

6   available at the time the study was performed. The expense data was annualized to

7   account for costs over the full 12 months of 2002. These annualized results are

8   comparable to the final 2002 Automated Reporting Management Information System

9   (ARMIS) expense data; indeed, the annualized total expense projection is actually lower

10   than the 2002 ARMIS figure. However, the ARMIS data did not become available until

11   shortly before this filing, and thus could not be used in a timely manner to calculate all

12   the components of the study.

13   Using this data, we first calculated the average unit investment for each relevant

14   facility (e.g., for a single loop), based on the investment accounts relating to each type of

15   facility. We then developed and applied annual cost factors, which we describe below,

16   that are designed to account for Verizon VA's annual expenses in connection with such

17   facility investments.

18   **Q.**   **On what accounting data did you rely for your study?**

19   A.   As noted, the study relies on the first nine months of Verizon VA's 2002 investment and

20   expense accounting records. These are the same accounting records that Verizon VA

21   uses to prepare its ARMIS reports.

22   Like the ARMIS reports, Verizon VA's accounting records divide relevant

23   investment data among 12 plant accounts. Each plant account typically contains, among

1		other things, a record of the total amount of investment at the time it was incurred for all
2		the assets currently in that account. There are related accounts that report Verizon VA's
3		operating expenses in connection with that category of investment, and there are also
4		general expense accounts that must be allocated to the various plant accounts.
5	Q.	**What are annual cost factors?**
6	A.	Annual cost factors are used to determine Verizon VA's annual operating and capital-
7		related expenses for the facilities used to provide UNEs. They are ratios that represent
8		the relationship between a type of cost and the associated investment (or, in some cases,
9		the relevant expenses or revenues). For example, if the total annual expenses required to
10		perform maintenance, repair, and related tasks for a particular class of plant are $1,000
11		and the total investment for that plant is $10,000, the operating expense annual cost factor
12		would be .10 ($1,000 divided by $10,000). Because over time, the ratio of expense to
13		actual investment generally remains stable, the application of operating expense annual
14		cost factors to the investment Verizon VA identifies will determine the amount that
15		Verizon VA expects to incur in using its existing facilities to provision **UNEs** to **CLECs.**
16		Thus, using the example above, Verizon would multiply the operating expense annual
17		cost factor **of** .10 times the unit investment (e.g., the investment for a single loop) to
18		determine the annual operating expenses it will incur for maintenance, repair, and related
19		tasks when it leases that unit **of** plant (e.g., a loop) to a **CLEC.**
20	Q.	**How did you use annual cost factors to calculate Verizon VA's costs?**
21	A.	Broadly speaking, there are two categories **of** annual cost factors: operating expense
22		factors and capital cost-related factors. The operating expenses include costs such as
23		equipment maintenance and repair expenses, network-related expenses, and common

1   overhead. The capital-related expenses are the depreciation on the facilities, the cost **of**

2   equity and cost of debt, corporate income tax, and property and other taxes on plant

3   facilities.

4   To determine the total annual cost for a network element, we applied the annual

5   cost factors to the per-unit investment for each account associated with that element and

6   summed the results. For example, we used the annual cost factors to calculate the

7   expenses associated with each of the loop-related plant accounts on a per-unit basis, and

8   the sum of these produced the annual cost of **a** loop. We then divided that by 12 to

9   produce the monthly cost. At a general level, the use of these cost factors is similar to

10   how cost factors were used for determining Verizon VA's TELRIC costs, except that this

11   study does not make the various adjustments required by TELRIC. (Further details about

12   annual cost factors and the manner in which they are applied are explained in Verizon's

13   recurring panel direct testimony in this proceeding. **(See** VZ-VA Ex. 107 at 48-76.))

14 **Q.** **Does your study include non-recurring costs?**

15 A.   The data in Verizon VA's financial reports does include non-recurring costs. However,

16   we removed those costs from our study in order to make an apples-to-apples comparison

17   between Verizon VA's costs and the parties' proposed TELRIC recurring rates.

18   Specifically, after determining Verizon VA's total monthly costs for provisioning a loop

19   and a UNE-P, we subtracted Verizon VA's non-recurring revenues in 2002 (as reflected

20   in the financial reports) from the expenses used to calculate the cost factor in **our** study.

21   We subtracted non-recurring revenues because, as explained in Verizon's recurring panel

22   direct testimony in this case, non-recurring revenues are a good proxy for non-recurring

23   costs, since non-recurring rates generally are set at cost.

1		**B.** **Calculation of Average Investment for Each Facility**
2	**Q.**	**How did you derive the average per-unit investment for a particular facility?**
3	A.	At the simplest level, we took the investment for each account and divided it by the
4		number of the appropriate units (total number of access lines, minutes of use, etc.) to
5		determine the unit cost. For loops, we first had to determine the total outside plant
6		account investment related to loop investment, since the outside plant accounts record
7		investments for both loop and transport. There are two types of outside plant investment
8		accounts — cable and wire-related accounts and circuit accounts. For each type of
9		account, we compared the "exchange" investment (investment for facilities used to serve
10		an exchange but not to connect two exchanges) with the *total* investments. The resulting
11		ratios were applied to each of the relevant plant accounts to ensure that only the loop-
12		related investment was included, and all transport-related investment was excluded. We
13		then divided the resulting loop investment for each account by the number of working
14		loops and summed the investment from each account to determine the total investment
15		per loop.
16	Q.	**Did you follow a similar process for the investment for switching?**
17	A.	Yes. We allocated the total digital switching investment between line termination (port),
18		tandem and end office trunk termination, and tandem and end office usage. We divided
19		the line termination investments by the number of access lines to determine the total
20		investment per port. We divided each of the remaining categories of investments by
21		minutes of use to determine the cost for local end office and tandem switching and trunk
22		port investment per minute of use. We used 2360 total minutes of use per line, which is
23		equal to the total dialed equipment minutes for 2001, as reported in **ARMIS,** divided by
24		**the** average number of access lines in service in 2001 (*i.e.,* the average of the number of

1   lines in service at the end of the year in 2000 and 2001) as reported in ARMIS. We used

2   the 2001 minutes because Verizon VA no longer measures dialed equipment minutes and

3   accordingly does not have that number for 2002. The use of 2001 figures is quite

4   conservative, because as the competition report that we are submitting today

5   demonstrates, in Verizon VA's experience, the minutes of use have actually been

6   declining, and spreading the same costs over fewer minutes would result in a higher

7   minute of use rate.

8   **Q.**   **How did you address the costs of the shared transport component of UNE-P?**

9   A.   Verizon VA's accounting records do not differentiate between investment used for

10   shared transport versus investment used for dedicated transport. We accordingly found

11   that it was not practicable to isolate the specific costs associated with shared transport in

12   our accounting data and to include only those costs and exclude dedicated transport-

13   related costs, which obviously are not relevant in assessing UNE-P costs. Accordingly,

14   to avoid any possibility for dispute, we used the $0.85 TELRIC shared-transport cost

15   approved by the Virginia Commission as a proxy for shared transport costs in our study,

16   thus assuming that Verizon VA's actual costs during 2002 were no higher than the

17   TELRIC assessment of such costs made by the Virginia Commission. In fact, this

18   undoubtedly *understates* Verizon VA's cost of shared transport.

19   C.   **Operating Expenses**

20   *Q.*   **How did you calculate the operating expense factors associated with each facility?**

21   **A.**   To develop the operating expense factors for this study, we used the same basic process

22   of developing annual cost factors that was used for the TELRIC study, except that data in

23   this case was drawn from more recent financial records (and TELRIC-specific

24   adjustments, such as the forward-looking adjustment to reflect reduced repair expense

| 1 | and the application of the forward-looking conversion factor, were not made). As |

1   and the application of the forward-looking conversion factor, were not made). As

2   described in further detail in Verizon VA's direct testimony in this proceeding, there are

3   various types of "operating" expenses and thus several operating expense annual cost

4   factors:

5   • Some operating expenses are incurred and recorded in connection with

6   specific plant accounts — such as equipment and facilities maintenance

7   expenses. For those expenses, the annual cost factor is simply equal to the

8   operating expense recorded for a particular plant account divided by the

9   relevant investment in that account.

10   • Other operating expenses are incurred to support more than one category of

11   plant; these include expenses such as network administration and engineering.

12   These expenses are recorded in non-plant-specific expense accounts. **For**

13   purposes of calculating the annual cost factors, these non-plant specific

14   expenses are allocated among the pertinent plant accounts based on the

15   detailed function code information from Verizon VA's financial systems. For

16   example, in determining the relevant annual cost factor, expenses identified

17   with the function code "Switching Administration" are assigned to the central

18   office plant accounts.

19   • Other operating expenses support the company as a whole and cannot be

20   attributed directly to any specific class of facility, such **as** Other Support

21   computer expenses. These expenses instead are attributed to all revenue-

22   producing plant investment categories.

1   •   Some operating expenses, such as common overhead, also are not specific to

2   any category of investment and are attributed across all elements and services

3   covered by the study in proportion to the other **expenses** associated with those

4   elements and services.

5   •   Finally, the gross revenue loading factor accounts for the costs associated with

6   Virginia-specific regulatory assessments and uncollectibles; the factor is

7   developed as a percentage of gross revenue.

8   **D.**   **Capital-related Expense Factors**

9   **Q.**   **How did you calculate the capital-related expense factors?**

10   A.   Capital-related expenses are the expenses that Verizon VA incurs in connection with

11   depreciation, the cost of capital, income tax, and property and other taxes. The capital-

12   related expenses are determined using three separate factors: the depreciation factor; the

13   "return, interest, and tax" factor (which accounts for the cost of capital and income tax);

14   and the property and other tax factor.

15   **Q.**   **Please explain how you calculated the depreciation annual cost factor.**

16   A.   We determined the depreciation factor in this study the same way we determined it in

17   Verizon VA's TELRIC studies previously presented in this case. The depreciation factor

18   is based on the GAAP life associated with the type of asset in each particular account,

19   assuming a straight line depreciation analysis. Thus, for example, an account with assets

20   having a 10-year GAAP life would have a ratio of .10 applied to the per-unit investment

21   for each of the ten years of the asset's life. While the account reflects investments at

22   varying stages of life, the analysis assumes that as some plant ages and nears retirement,

1		new plant will be added, and thus the average annual depreciation cost that Verizon VA
2		will incur over time should remain stable.
3	Q.	**How did you calculate the return, interest, and tax factor?**
4	A.	This calculation involved several steps. We calculated a cost of debt and cost of equity
5		for each asset account for each year of the asset's life using 11.25% as the cost of capital.
6		Because the Commission has stated that this figure represents an appropriate *starting*
7		place for the cost of capital, this figure is conservative. In fact, the more appropriate
8		figure would be at least the cost of capital that Verizon uses for financial evaluation
9		purposes, which as Verizon VA has explained, is also the absolute *minimum* figure that
10		should be used in assessing the TELRIC cost of capital. As Dr. Vander Weide explains
11		in his supplemental testimony provided concurrently with this filing, the cost of capital
12		associated with providing UNEs should be even higher, as it should include an additional
13		risk premium designed to account for some of the risks inherent in the UNE and TELRIC
14		regime; obviously, including that risk premium in this study would result in a higher cost
15		than what we report here.
16		After calculating the cost of debt and cost of equity, we then determined the
17		annual income tax cost assuming Verizon's actual federal corporate tax rate of 35%
18		(prior to credits and adjustments) and Virginia state income tax rate of 8.93% (the figure
19		routinely used by the Virginia State Commission) applied against the equity return. For
20		each account, we then performed a net present value analysis of the cost of capital and
21		the income tax by determining the amount of the cost for each year of the asset's life,
22		calculating the present value of each of those annual cost **of** capital and tax costs, and
23		then amortizing the sum of those present values.

1	Q.	**Does this calculation take into account only the capital and tax costs associated with**
2		**Verizon VA's unrecovered historical investment?**
3	A.	Yes. We applied the return, interest, and tax factor to an amount calculated to represent
4		the approximate *net* investment each year, rather than the gross investment reflected in
5		the 2002 financial reports. It was necessary to do this because as assets depreciate over
6		time, fewer dollars are required to provide the necessary return on the asset, and hence
7		fewer dollars are needed to cover the tax costs. In other words, in the present value
8		calculation described above, if an asset originally cost $1000 and has a 10 year life, in
9		determining the required return, interest, and tax for year two, we used an asset value
10		starting at $900, rather than $1000. Similarly, for year three we started at $800. The
11		effect of this approach is to deflate the return, interest, and tax factor by approximately
12		50% (the exact percentage varies by plant account) from where it would be if the factor
13		were developed using gross investment. Using this factor approach bases return and tax
14		costs on the assumption of economic depreciation, thus eliminating any real-world
15		anomalies in actual net depreciation, such as those that might result from state-mandated
16		depreciation schedules.
17	Q.	**How did you calculate the property and other tax factor?**
18	A.	The Property and Other Tax annual cost factor is developed by dividing the property tax
19		expense by the investment related to the applicable assets (land and buildings). All other
20		taxes, such as miscellaneous taxes imposed by Virginia municipalities and counties, are
21		applied to all appropriate investments.
22	Q.	**What is Verizon VA's recurring monthly cost to provide a UNE loop and a UNE-P?**

1   A.   According to the study, based on 2002 data, Verizon VA's recurring monthly cost to

2   provide a UNE loop is $29.14. Its average recurring monthly cost to provide a UNE-P is

3          $42.26 (assuming, as explained above, 2360 total average minutes of use per line, based

4   on ARMIS figures for the total dialed equipment minutes and the number of access

5   lines). That cost is comprised of the $29.14 in loop costs, $12.27 in switching (port and

6   usage) costs, and $0.85 in shared transport costs (the latter of which, **as** described above,

7   is a conservative proxy based on the Virginia Commission's previously approved rate).

8   **II.   SHORTFALL ANALYSIS**

9   **Q.   How did you determine the amount of the shortfall Verizon VA would have**

10   **incurred and will incur if compelled to provide UNEs at the TELRIC rates**

11   **proposed in this case?**

12   A.   As a first step in this analysis, we compared Verizon VA's monthly costs for a UNE loop

13   and a UNE-P with the comparable TELRIC rates proposed by AT&T/WorldCom and

14   Verizon VA. The recurring UNE loop rate proposed by AT&T/WorldCom is $6.48 and

15   the TELRIC rate proposed by Verizon VA is $22.33. The proposed TELRIC recurring

16   UNE-P rates (assuming the same 2360 total minutes of use we used to calculate Verizon

17   VA's actual monthly cost) are $9.97 for AT&T/WorldCom and $35.43 for Verizon. As

18   noted above, our study demonstrates that UNE loop and UNE-P rates of $29.14 and

19         $42.26, respectively, would be required for Verizon VA to recover its historical

20   investment and associated operating expenses. Thus, **for** example, AT&T/WorldCom's

21   proposed rates would produce a monthly per-loop shortfall of $22.66, and a monthly per-

22   UNE-P shortfall **of** $32.29.

1   Q.   **Once you had determined the difference between Verizon VA's monthly cost for**

2   **providing a UNE-P and the monthly TELRIC rates proposed in this case, what did**

3   **you do next?**

4   A.   The next step was to compute the total annual shortfall between Verizon VA's actual

5   costs and the proposed TELRIC rates. We first looked at 2002, since we know how

6   many UNEs were actually provided during that year. We compared Verizon VA's

7   monthly recurring cost for a UNE loop and a UNE-P first with AT&T/WorldCom's

8   TELRIC cost proposals and then with Verizon VA's, multiplied each monthly shortfall

9   by 12 to calculate the annual shortfalls, and multiplied the annual loop and UNE-P

10   shortfall amounts by the actual number of UNE loops and UNE-Ps, respectively, that

11   Verizon VA provided to CLECs in 2002. That calculation produces the estimated

12   shortfall Verizon VA would have suffered in 2002 if it had been forced to provide loops

13   and UNE-Ps at either set of TELRIC rates proposed in this proceeding. Given

14   AT&T/WorldCom's proposed loop rate of $6.48 and its proposed UNE-P rate of $9.97,

15   the total annual shortfall for the loops and UNE-Ps that Verizon sold in Virginia in 2002

16   would have been more than $59 million. If Verizon VA had instead provided UNEs at

17   the TELRIC costs proposed by Verizon VA, the aggregate shortfall based on the number

18   of loops and UNE-Ps Verizon VA actually provided in 2002 would have been more than

19         $16 million.

20   Q.   **How did you project potential shortfalls for 2003, 2004, and 2005?**

21   The actual shortfalls for those years will depend on the volumes of loops and

22   UNE-Ps that CLECs actually order in Virginia. We determined the historical growth

23   trends for orders of UNE loops and UNE-Ps in Virginia from 1996-2002, projected those

1   trends forward for 2003-2005, and applied those projected growth rates to the actual

2   volumes of **UNE** loops and UNE-Ps provided in Virginia in 2002 to estimate demand for

3   **UNE** loops and UNE-Ps in Virginia. Assuming that Verizon VA's monthly costs,

4   derived from the 2002 data, will stay the same over the next several years, based on these

5   calculations, at the TELRIC rates proposed by AT&T/WorldCom, the annual shortfall by

6   2005 could be over $158 million. The shortfall by 2005 based on the TELRIC rates

7   proposed by Verizon VA could be over $37 million.

8   We also estimated the shortfall that would result by 2005 if the volume of UNE

9   loops and UNE-Ps that Verizon provides in Virginia were to increase at rates similar to

10   what Verizon experienced in New Jersey and New York after section 271 relief was

11   granted in those states. To do this, we looked at the actual growth rates in those states

12   from the date that section 271 relief was granted to the present; we projected those trends

13   forward as necessary to obtain three full years' **worth** of growth trend data. We applied

14   the resulting growth rates for each state to the Virginia UNE loop and UNE-P volumes at

15   the time Verizon obtained section 271 relief in Virginia. Based on this analysis, the

16   projected annual shortfall in Virginia by 2005 at AT&T/WorldCom's proposed rates

17   would be over $222 million if the growth trend were similar to that in New Jersey, and

18   over $317 million if the Virginia growth trend were similar to that experienced in New

19   York.

20   *Q.*   **Did you perform any other calculations?**

21   **A.**   Yes. We also determined that if Verizon VA had leased even 22% of its lines as UNE-Ps

22   (less than it has leased in New York) at AT&T/WorldCom's proposed rate, Verizon **VA's**

23   net income in 2002 would have dropped to zero. To make this determination, we took

1   Verizon VA's reported net income for 2002 from ARMIS ($275,509,000); we calculated

2   the annual per-UNE-P shortfall between AT&T/WorldCom's proposed UNE-P rate and

3   Verizon VA's UNE-P cost; and then we divided the net income by that shortfall amount

4   to produce the number of UNE-Ps that would have to be sold before Verizon VA's net

5   income dropped to zero.

Declaration of Patrick **A.** Garzillo

I declare under penalty of **perjury** that I have reviewed the foregoing testimony and that those sections **as** to which I testified are true and correct.

Executed on April 15, 2003

Patrick A. Garzillo
Patrick **A.** Garzillo

VERIZON VIRGINIA INC.

SUPPLEMENTAL TESTIMONY OF LOUIS D. MINION

DOCKET NOS. 00-218, 00-249, 00-251

APRIL 15,2003

SUPPLEMENTAL TESTIMONY OF LOUIS D. MINION

3 Q. **What is your name and job title?**

4 A. My name is Louis D. Minion. I am a Director of Financial Planning and Analysis at

5 Verizon. I submitted written testimony on behalf of Verizon VA in this proceeding and

6 also served as a witness for Verizon VA during the hearings.

7 Q. **What is the purpose of your testimony?**

8 A. The purpose of my testimony is to provide the Commission with updated information

9 concerning the amount of uncollectible revenue that Verizon VA has experienced in

10 connection with the provision of UNEs and resale. As I explain, the percentage of

11 uncollectibles Verizon has incurred is far higher than the figure included in the cost

12 studies in this proceeding. If the FCC does not consider this supplemental data, the

13 resulting rates would substantially under-recover Verizon VA's costs.

14 Q. **Summarize the result of this updated analysis.**

15 A. Our updated information demonstrates that, for the former Bell Atlantic serving areas

16 (which l will refer to as "Verizon-East") as a whole, the average annual uncollectible rate

17 for UNEs and resale during 2001 and 2002 was 11.8%. The average annual uncollectible

18 rate for Verizon VA was 25.8%. These figures exclude the effects of the WorldCom

19 bankruptcy and the September 11 tragedy. Both numbers are obviously greater than the

20 0.56% proxy rate that Verizon VA used in its cost studies.

21 Q. **Generally speaking, what are "uncollectibles"?**

22 A. "Uncollectibles" refers to revenues that Verizon VA has billed for services it has

23 provided to a customer (in this case, the provision of UNEs and resold services to a

1		CLEC) that Verizon will be unable to collect because, for example, the CLEC has gone
2		bankrupt and has no means to pay (or can pay only in part).
3	Q.	**Please describe where uncollectibles fit into Verizon VA's model for determining the**
4		**costs of providing UNEs.**
5	A.	As Verizon previously explained, one of the annual cost factors used in Verizon VA's
6		cost studies is the Gross Revenue Loading Factor. (VZ-VA Ex. 107 at 69-70.) This
7		factor accounts for certain costs experienced by Verizon VA in providing UNEs,
8		including federal and state regulatory assessments and uncollectible revenues from
9		CLECs. Because the Gross Revenue Loading Factor represents a ratio of costs to gross
10		revenues, it is applied once the relevant gross revenue figure has been determined. In the
11		case of a UNE cost study, that gross revenue figure is the TELRIC cost that Verizon must
12		recover through UNE charges. Thus, application of the Gross Revenue Loading Factor is
13		essentially the last calculation that is needed to determine the UNE rates and is
14		independent of the other inputs and assumptions in the study. For example, if Verizon's
15		TELRIC costs are $100 and the Gross Revenue Loading Factor is 10%, then Verizon's
16		UNE rate will be $110 — the extra $10 accounts for the regulatory assessments and
17		uncollectibles Verizon will incur on average and ensures that Verizon actually obtains
18		$100 in gross revenues to cover its TELRIC cost.
19	Q.	**How did Verizon VA estimate its uncollectible rate in its initial cost studies in this**
20		**proceeding?**
21	A.	The cost data Verizon VA used in the cost studies it originally filed in this proceeding
22		was based on 1999 data. In 1999, Verizon's experience obtaining payment from CLECs
23		in Virginia was relatively limited, as was the data needed to calculate CLEC-only

1   uncollectibles. **As** a result, Verizon **VA's** cost studies used a proxy for the percentage of

2   uncollectible CLEC revenue. That proxy was the percentage of total intrastate

3   uncollectibles that was attributable to intrastate *access **charges und reseller*** payments

4   from IXCs for Virginia, Massachusetts, New Jersey and New York, because those were

5   the States for which IXC and reseller uncollectible data was readily available. Use of this

6   proxy yielded a 0.56% rate for 1999.

7 **Q.**   Has **subsequent** experience demonstrated that this proxy figure **was** too **low?**

8 **A.**   Definitely. Verizon has now calculated its actual uncollectible rate for the provision of

9   UNEs and resale for calendar year 2001 and 2002 for both Verizon-East generally and

10   Virginia in particular. As noted above, in making these calculations Verizon excluded

11   the effects of both the WorldCom bankruptcy and the September 11th tragedy to arrive at

12   the Verizon-East uncollectible rate. Based on its accounting records, Verizon has

13   determined that it had **[BEGIN VERIZON PROPRIETARY]**   **[END**

14   **VERIZON PROPRIETARY]** in receivable revenue from CLECs for UNEs and resale

15   in 2001 and 2002. Verizon experienced approximately **[BEGIN VERIZON**

16   **PROPRIETARY]**   **[END VERIZON PROPRIETARY]** in CLEC

17   uncollectibles in 2001 and 2002. Thus, Verizon had an uncollectibles rate of

18   approximately 11.8% in Verizon-East.

19   For Virginia specifically (again excluding the effects of WorldCom), Verizon's

20   accounting records show that it had **[BEGIN VERIZON PROPRIETARY]**

21   **[END VERIZON PROPRIETARY]** in receivable revenue from CLECs for UNEs and

22   resale in 2001 and 2002. Verizon experienced approximately **[BEGIN VERIZON**

23   **PROPRIETARY]**   **[END VERIZON PROPRIETARY]** in CLEC

1		uncollectibles in 2001 and 2002. Thus, Verizon had an uncollectibles rate of
2		approximately 25.82% in Virginia.
3	Q.	Why did you use two years of data and exclude the effects **of** the WorldCom
4		bankruptcy and September 11?
5	A.	We used two years of data because the larger sample makes the resulting uncollectible
6		rate more reliable and helps smooth out the effects of periodic fluctuations. We excluded
7		the effects of the WorldCom bankruptcy from the calculation of the uncollectible rates in
8		order to be conservative. Excluding the effect of the WorldCom bankruptcy may cause
9		the uncollectible rates calculated here to understate the actual level of uncollectibles that
10		will be experienced going forward, but it eliminates any potential argument that including
11		the effect of the WorldCom would overstate the expected future level of uncollectibles.
12		Similarly, Verizon VA excluded the effects of the September 11th tragedy from its
13		calculation of the Verizon-East uncollectible rate because it is a one-time event that had a
14		material effect on wholesale revenues in only one state. In particular, in the period
15		following September 11, Verizon wrote off as uncollectible the balances of customers
16		(whether retail or wholesale) located in the New York 212 or 718 area codes that were
17		already at risk of having uncollectible receivables (such as customers undergoing
18		bankruptcy or those subject to an embargo for non-payment) and that would likely be
19		unable to recover following the September 11th tragedy. As a result, Verizon wrote off
20		the balances of such customers as uncollectible. Some of the amounts written off as
21		uncollectible were due to CLECs purchasing UNEs and resale. These uncollectible
22		amounts were removed from the calculations of the Verizon-East uncollectible rate here.
23	Q.	Why do the uncollectible rates for Verizon-East as a whole and for Virginia vary?